AD-A032 220   RAND CORP   SANTA MONICA CALIF
HEALTH CARE COST SHARING AND COST CONTAINMENT, (U)
FEB 76   J P NEWHOUSE

F/G 6/5

UNCLASSIFIED   P-5615

NL

1 OF 1
AD
A032220

END
DATE
FILMED
1   77

FG. ②

HEALTH CARE COST SHARING AND COST CONTAINMENT

Joseph P. /Newhouse

February 1976

32p.

D D C
RECEIVED
NOV 18 1976
B

P-5615

296600

5-12-76

<u>ERRATA</u>

P-5615   HEALTH CARE COST SHARING AND COST CONTAINMENT
         Joseph P. Newhouse, February 1976

Page 24, item b, under "Sources"

First sentence should read:

"Estimate of change in demand from uninsured to insured
of <u>80</u>-140 percent ...."

HEALTH CARE COST SHARING AND COST CONTAINMENT

Testimony prepared for the Subcommittee on Public Health and
Environment of the Committee on Interstate and Foreign
Commerce, United States House of Representatives

Joseph P. Newhouse

SUMMARY

ABSTRACT

If cost sharing is not included in a national health insurance plan, little additional demand is likely to be generated for hospital services. By contrast, substantial demand will be generated for other services, such as physician office visits. This demand increase will probably be spread across all income classes, not concentrated among the poor. ~~In the short run~~, large demand increases will cause services to be rationed. Exactly what the mechanisms for rationing will be is uncertain, but at least some of them would be considered undesirable. Therefore, if it is desired to eliminate cost sharing, a planned gradual phasing out of an initial deductible for the nonpoor appears attractive.

In the long run, the elimination of cost sharing in a decentralized, fee-for-service system is likely to generate unacceptably high total expenditures. Broadly speaking, two outcomes are possible. One is to retain monetary incentives that serve to keep costs in line with what consumers wish to pay. This may be done through the Health Maintenance Organization (HMO) concept (so long as there are competing HMOs with consumers paying or receiving the cost differential between them), through varying an insurance premium depending upon the expensiveness of the provider, or through retaining sufficient cost sharing to assure that small expenditures are not covered by insurance. (In the latter case, special treatment would still probably be required for hospitals.) All of these methods attempt to retain some element of price competition in medical care. The other outcome is public regulation or determination of provider budgets. In effect, the first approach attempts to hold the medical care sector accountable through the marketplace, the second through the political process. There are fundamental philosophical differences between these two approaches which must be resolved through the political process.

HEALTH CARE COST SHARING AND COST CONTAINMENT

Mr. Chairman and Members of the Committee, thank you for the
opportunity to appear before you. The subject before us today is
cost containment; I have been asked to comment on the relationship
between cost sharing and cost containment in the area of health care
delivery. The desirability of cost containment all of us as tax-
payers understand; the desirability of cost sharing, or out-of-pocket
payments by patients for their medical care, is another matter.
There are strongly held views on cost sharing; some persons consider
it a virtue that ranks with saintliness; probably a greater number
view it as a vice that ought to be expunged. Despite the strength
with which various views are held, little is known about the con-
sequences of cost sharing. Recognizing this, the Department of
Health, Education, and Welfare has invested in a large, multi-year
social experiment—the Health Insurance Study—to learn about the
effects of cost sharing on demand, quality of care, and health
status.* Unfortunately, the results of this experiment necessarily
will not be available for several years. But enough is known from
existing data to be fairly certain of some conclusions.

Speaking at a very general level, health care costs have two
components—the amount or quantity of service and the price paid per
unit of service. Cost sharing can affect both components. The
amount of service is important because it reflects how society is
using its resources. Men and women who become physicians do not
become scientists or judges; construction workers who build hospital
beds could build homes instead. One important aspect of cost sharing
is the degree to which it increases the amount of service that an
individual seeks or that his physician prescribes for him. Whether
the increased services are worth the money is a question about which
there are many opinions, but little evidence.

The effect of cost sharing on the other component of total cost,
price per unit of service, is important because the price determines

_____
*Larry L. Orr, "The Health Insurance Study: Experimentation and
Health Financing Policy," *Inquiry*, Vol. II, No. 1, March 1974, pp. 28-39.

the division of income between medical care providers and the rest of society. Both the medical care sector and the rest of society naturally have strong feelings on this subject. Eliminating or nearly eliminating cost sharing tends to remove normal market restraints on unit price. If nothing is put in their place, costs are likely to rise to unacceptable levels. As a result, if cost sharing is done away with, the public sector will probably be asked sooner or later to control price and per- haps total expenditure as well. Judging from the experiences my colleagues on the panel are here to discuss, the time may be sooner rather than later.

Cost Sharing and the Quantity of Services Demanded

I begin by considering the effect of cost sharing on the demand for medical services. It is important to be clear about the meaning of demand—the amount of medical services that individuals *seek*, or that their physicians *seek* to deliver. If demand is sufficiently high, not all demand can be satisfied; so demand does not necessarily equal actual utilization. In the long run, if supply is free to expand, it will tend to rise to the level of demand.

There is sometimes debate over who initiates demand, the patient or the physician. Irrespective of the answer, one can assess the effect of alternative cost sharing arrangements on demand. I begin by assuming that we are talking in the context of present medical technology.

The extent of existing insurance coverage varies markedly by type of medical service. Hospital services are nearly completely covered now, as Table 1 shows. Likewise, inpatient physician services are relatively well covered now (Table 2 shows data for surgeons). By contrast, out- patient physician services, dental services, and prescription drug services are much less well covered at present (Table 3).

Suppose that these latter services were completely or nearly completely covered. What would happen to demand? The data I have analyzed, while not nearly so complete as one would like, suggest that the resulting increase in demand will be large (Table 4). With two colleagues, I have estimated elsewhere that a full coverage plan (no cost sharing) could increase the demand for office visits by something

like 75 percent.[*] Even if there is a 25 percent coinsurance rate (or a $2 to $3 copayment per visit), the increase in demand is likely to be on the order of 30 percent. The data in Table 4 suggest a rise in demand of similar magnitude if dental services and prescription drugs are fully covered.

If the plan includes a deductible of "sufficient" size, there will be a much smaller increase in demand, on the order of 5 to 10 percent. This occurs because then most people, most of the time, would pay for their care themselves. What constitutes sufficient size? I am currently working on this problem, and cannot now say with any certainty. A guess might be $200 per person per year, with a higher figure being necessary if benefits are very broad (e.g., if dental or vision services are covered).

A natural question is how these increases in demand will be distributed among income groups. In response, we need to know the current distribution of insurance by income group and the responsiveness of demand to insurance by income group. Unfortunately, little is known about either factor. Some data suggest that the proportion of families with doctor office visit coverage is, if anything, slightly *higher* among the poor than among the remainder of the population (Table 5). This contrasts with the widely held view that coverage is less among the poor; however, the data usually cited to support this view fail to account for public insurance coverage, which is concentrated among the poor.

No data are available on the distribution of coverage for other services by income group. However, it is almost certainly the case that there is little insurance among any income group for drugs or dental services, given the relatively small amount of aggregate coverage. Thus, the extent of present insurance coverage is probably roughly similar across income classes (although there may be considerable variation within a class—as, for example, among the poor who are and are not eligible for Medicaid).

---

*Newhouse, Joseph P., Charles E. Phelps, and William B. Schwartz, "Policy Options and the Impact of National Health Insurance," *New England Journal of Medicine*, Vol. 290, June 13, 1974, pp. 1345-1359.

Whether various income groups react to cost sharing differently is uncertain. There are theoretical reasons to believe that the poor would be more responsive to cost sharing than the well-to-do, and some empirical evidence for that belief. But there is also evidence that the poor respond to cost sharing in a fashion roughly similar to that of the rest of the population.[*] It is probably safe to assume that the poor are at least as responsive to cost sharing as the rest of the population, and that the distribution of insurance across income classes is now roughly equal. Thus, it appears that *increases in demand induced by national health insurance will be spread throughout the population.*

What will be the consequences of large increases in demand? Given that capacity cannot be expanded by these amounts immediately, some kind of rationing mechanisms would be called into play in the short run to allocate the existing supply. These mechanisms will determine who is seen by the medical care system, for what kind of problem they are seen, and how they are treated for that problem. Unfortunately, we know little about these mechanisms. What follows is a list of possible mechanisms, with comments on their implications:

---

[*] When a $1.50 office visit charge was imposed in Saskatchewan, the percentage reduction was 6 to 7 percent in the general population, but 18 percent among the poor. (Beck, R.G., "The Effects of Co-Payment on the Poor," *Journal of Human Resources*, Vol. 9, No. 1, Winter 1974, pp. 129-142.) However, when a 25 percent coinsurance rate was imposed upon a group of Stanford University employees, the absolute and percentage decline in visits was similar among faculty, other professional, and nonprofessional staff. (Scitovsky, Anne, and Nelda Snyder, "Effect of Coinsurance on Use of Physician Services," *Social Security Bulletin*, Vol. 35, No. 6, June 1972, Table 5; and Phelps, Charles E., and Joseph P. Newhouse, "Effects of Coinsurance: A Multivariate Analysis, *ibid.*, Table B.) Analysis of survey data shows income groups similar in their responsiveness to price, although those with low nonwage incomes appear slightly more responsive (Newhouse, Joseph P., and Charles E. Phelps, "New Estimates of Price and Insurance Elasticities," in *The Role of Health Insurance in the Health Services Sector*, ed. Richard Rosett, New York: National Bureau of Economic Research, forthcoming.) Data from countries such as Canada and the United Kingdom that are sometimes cited to show greater utilization gains from national health insurance among the poor usually do not give data on the initial distribution of health insurance across all income classes, and are therefore difficult to apply to the current U.S. situation.

1. <u>Increases in price.</u> Price increases are likely if prices are
not controlled. For example, suppose a physician is now charging $10
for an office visit, but his patients are mostly uninsured; if legis-
lation were enacted by which these patients had 75 percent of their bill
paid by insurance, the temptation to raise prices would be very strong.
Such a fee increase would reduce demand on the part of consumers. The
increased price might induce physicians to work longer hours, or it
might have the perverse effect of reducing hours, as physicians find
they can earn the same income with fewer hours of work. Physician hours
in the office fell by around 10 percent in Montreal when full coverage
insurance was introduced; but prices were set by a fee schedule, and we
do not know whether these prices were higher or lower than those pre-
viously existing.*

2. <u>Delays in receiving appointments.</u> Insofar as physicians
schedule patients at current rates, increased demand will mean increased
delays to appointment. This will tend to offset the demand increase,
because some persons who cannot be seen will have self-limited illnesses
and will no longer feel in need of physicians' services by the time they
can be seen. There is evidence that this rationing mechanism was used
in Canada when full coverage for outpatient services was introduced;
average delay to appointment in Montreal jumped from six to eleven
days.**

3. <u>Increased queues in the office.</u> As physicians attempt to see
more patients in a day, or as patients seek care in emergency rooms,
the amount of time required to obtain care is likely to rise. This rise
will discourage some from seeking care and thus will reduce demand.

4. <u>A change in the character of services provided.</u> As more patients
attempt to be seen, physicians may spend less time per patient or may re-
duce the revisit rate. It appears that regions with fewer physicians

---

*Enterline, Philip E., et al., "Effects of 'Free' Medical Care on
Medical Practice—The Quebec Experience," *New England Journal of Medicine*,
Vol. 288, May 31, 1973, pp. 1152-1155.

**Enterline, Philip E., et al., "The Distribution of Medical Services
Before and After 'Free' Medical Care—The Quebec Experience," *New England
Journal of Medicine*, Vol. 289, November 29, 1973, pp. 1174-1178.

experience more rapid throughput of patients.[*] The overall consequences for health and satisfaction of higher throughput are uncertain. While there is less physician time per patient, more patients are seen.

5. <u>A change in the mix of patients seen by the physician.</u> In response to greater demand, the physician may try to discourage those who he feels have minor problems from coming in to see him, perhaps by treating them on the telephone. I know of no evidence to suggest whether physicians will do this.

All of these are potential mechanisms for rationing services. The extent to which each will be called into play is uncertain, although legislation can probably affect the degree to which price increases are used as a rationing mechanism. At least some of the mechanisms are generally viewed as undesirable. *If it is felt that these mechanisms should not be called into play, but if cost sharing is deemed undesirable, it is suggested that a deductible be included initially for the nonpoor and phased out over a period of several years.*

Over the longer run, changes in supply and changes in technology need to be taken into account. First, the supply of medical resources will be expanding; the output of medical schools has increased markedly in the past decade, owing in large part to legislation that this Committee has passed. Assuming that enrollments are maintained at their present levels, the supply of physicians in the United States will increase substantially for many years to come. Given some lead time, nurses, physician extenders, and other paramedical personnel can be trained to accommodate a demand increase. As the additional supply comes on stream, demand increases will be translated into increases in utilization, and more of society's resources will be devoted to medical care. *I have elsewhere estimated that this increase will be somewhere between $8 and $16 billion, if hospital and physician services are fully covered.*[**] The increase will be more if other services such as dentistry and drugs are covered.

Over a period of many years, medical technology will almost certainly change. The concern has been expressed by many that the kind of insurance adopted may affect the kinds of changes we see in technology, especially that the so-called "catastrophic" insurance may induce very expensive

---

[*] Reinhardt, Uwe E., *Physician Productivity and the Demand for Health Manpower*; Cambridge: Ballinger Publishing Company, 1975.

[**] Newhouse, Phelps, and Schwartz, *op. cit.*

technology that will make little, if any, difference to the health of the population. This view seems questionable to me.

Virtually all proposed new legislation envisions covering very large medical bills.* Thus, I would expect the rate of introduction of costly technology to be about the same whether a catastrophic plan is enacted or a full coverage plan is enacted, unless either plan attempts to place direct controls upon technology. Put another way, there is a potential market for any innovation, no matter how costly, under any insurance plan that covers the last dollar of expenditure on medical care. Moreover, we are likely to see more costly technology even if no bill is passed, because existing insurance coverage for large medical bills is already widespread and appears to be increasing. My colleague Charles Phelps has estimated that in 1970, 75 percent of expenditures in excess of $3000 were covered by third parties. It seems likely that this percentage has risen since 1970.**

At least two things might be done about technological change and its cost implications. First, the linkages between biomedical research and technological change deserve more attention than they have had in the past. Although it is difficult to foresee the consequences of research, it may be possible to require an estimate of costs that would be imposed by some projects if they were successful (e.g., an artificial heart). It may be that this cost is sufficiently large that society would not choose to pay it; the research funds could then be allocated to other projects. Second, controls on the dissemination of technology could be instituted. For example, something similar to certificate-of-need laws could be enacted; alternatively, each hospital could be given a budget ceiling, so that purchasing costly technology would force it to give up something else. Whether such controls would be administratively workable or implemented in the manner intended remains a matter of doubt.

In sum, if cost sharing is eliminated, we face a short-run problem of accommodating a demand increase for nonhospital services. If desired, this problem can be avoided by phasing in full coverage. In the longer run, if supply is free to respond, full coverage of hospital and physician

---

*As for small medical bills, it could be argued that cost-saving technological change is the more likely as cost sharing grows, because an incentive would exist to economize for "small" medical problems.

**I do not expect that first dollar coverage will change by very much the incidence of severe medical problems. Many argue that an

services will divert some $8 to $16 billion in additional resources to medical care from other uses. Full coverage of drugs, dental, and other services will divert still more.

Cost Sharing, the Price of Services, and Total Expenditure

I wish to distinguish three ways in which cost sharing affects the price of services. The first I have already mentioned; if reduced cost sharing causes the quantity demanded to rise, one response will amost certainly be a price rise unless prices are controlled in some fashion. This is analogous to the rise in price in any market when demand rises and additional quantities can be procured only at a higher price.

Second, as cost sharing is reduced, a costlier mix of medical services may be demanded. A patient may consult a specialist rather than a general practitioner, or more laboratory tests may be run on a given patient. The result would be a rise in the price of a visit or a hospital day. This kind of price rise could be classified as a rise in the quantity of resources demanded, because it really reflects more intensive treatment; but it is typically classified as a rise in the price per day or per visit. The estimates in Table 4 include this kind of rise in price as part of the estimated rise in demand.

The third way in which cost sharing affects the price of services concerns its broader implications for the medical marketplace. Generally, we rely upon competition to keep prices to their minimum possible level in the private sector. It is presumed that a producer will not raise his price above those asked by other producers; if he does, he will lose business. Likewise, he will not grant wage increases that make him noncompetitive, lest he be forced out of business. If a firm charges more because it makes a product of higher quality, it carefully calculates the market for that product, lest the product not sell. Firms that are inefficient are effectively weeded out by customers seeking the best bargain for themselves.

While this may seem banal, I wish to emphasize that because of the interposition of insurance, the foregoing statements apply weakly at best

increase in preventive care will reduce such problems, but the preponderance of existing evidence indicates that first dollar coverage in the fee-for-service system increases rather than decreases total expenditure. See Lewis, Charles E., and Harold Keairnes, "Controlling Costs of Medical Care by Expanding Insurance Coverage," *New England Journal of Medicine*, Vol. 282, June 18, 1970, pp. 1405-1412.

to substantial parts of the health care sector, especially hospital ser-
vices. As is obvious from the data in Table 1, most individuals who are
hospitalized have their bills paid by insurance. Such insurance breaks
the link that exists in most markets between the consumer's "voting" with
his dollars and the producer's decision on what to supply.

To illustrate, suppose a hospital wishes to add a costly machine.
Because of the existing of insurance, the resulting costs do not fall directly
upon the hospital patient; instead, they fall on all insured, each of whom
pays a slightly higher premium. The key point, however, is that the re-
sulting higher premium does not lead persons to insure themselves less;
because medical prices are higher, having less insurance is unattractive.
Hence, individuals tend to keep the amount of insurance they have. So long
as individuals pay the higher premiums, there is little reason for the hospi-
tal not to introduce the machine. Patients will not be driven to other
hospitals nor hospitalized less.

I should emphasize that there are no villains in this story. Everyone
involved in responding to the incentives he faces. The hospital's admini-
strator, the physicians on its staff, and its trustees have been trained
to pursue the delivery of high-quality care, *and the signal they receive
from the market is that costly care will be supported.* As a result,
because of countless small decisions made on the basis of current market
signals, medical care expenditures continue to rise.

There are two general approaches to dealing with the problem.
The first is to restore the link between consumer and producer that
exists in the usual market. This can be done in several ways. For
example, there could be substantial cost sharing by means of a deductible,
so that most of the people most of the time pay for their own medical
care. (Those who are hospitalized would still probably accrue costs
in excess of any acceptable deductible, so some other solution for
hospitals would be required.) Another alternative is the Health Main-
tenance Organization (HMO) concept, where care is free at the time of
service; the consumer chooses an HMO and receives or pays for cost
differences between that HMO and competing HMOs.[*] An analogous concept
that does not require organization of the delivery system is to vary

_____

[*] This solution may fail because of adverse selection; individuals who
are healthier than the HMO average have an incentive to form another group,
thus fragmenting the organization.

the premium paid for health insurance according to the costliness of
physicians or hospitals that the consumer chooses to use.[*] Under all
of these alternatives, a rise in cost at one hospital or HMO could
lead consumers and their physicians to use other hospitals or HMOs.

The second general approach to the problem of rising expenditure
consists of rate regulation or budget determination in the public
sector. In this case, the medical care sector would become like public
education or public safety, services whose budgets are determined
through the political process, or like transportation and telephone
services, whose rates are determined through the regulatory process.

Another way of putting this point is to say that cost containment
will require that the medical care sector be accountable—either
through the market or through the political process. Choice between
the market and the political process depends in part upon views of
the appropriate role for the consumer (consumer sovereignty). In most
sectors of the economy, it is felt that the best outcome is obtained
if the consumer is permitted to choose what he deems best for himself,
accepting whatever mistakes he makes in the process. Some persons feel
that the consumer is considerably more ignorant in medical care than
a public regulator would be; hence, it is argued, accountability through
the public sector would be preferable to accountability through the
market. On the other hand, it is also argued that experience with rate
regulation in other industries has not been favorable, that such regul-
ation has tended to favor existing producers, discourage innovation, and
keep prices higher than in the absence of regulation.[**] The choice
between the market approach and the public-sector approach to resource
allocation in medical care is fundamental and must be made through the
political process.[***]

---

[*] Joseph P. Newhouse and Vincent Taylor, "How Shall We Pay for
Hospital Care?," *The Public Interest*, No. 23, Spring 1971, pp. 78-92.

[**] Noll, Roger C., *Reforming Regulation*; Washington: The Brookings
Institution, 1971.

[***] It is possible to apply (a) the market approach in some areas of
medical care, especially those where expenditures are small, and (b) the
public-sector approach in others, such as hospitals, where expenditures
are large.

In sum, current incentives facing individual decisionmakers in many parts of the medical care sector do not lead them to emphasize cost containment. The further spread of insurance, as we now know it, is likely to exacerbate the problem by eliminating accountability through the marketplace and putting nothing in its place. Cost containment is unlikely to be achieved until these incentives are changed, either by structuring financial arrangements in medical care to encourage elements of price competition or by instituting detailed public regulation.

Appendix

In this Appendix, I comment on six specific questions indicated by the Committee staff to be of interest to members of the Committee:

1. What lessons can be drawn regarding cost sharing from the experience of Medicare and Medicaid? The introduction of Medicare and Medicaid was in some respects not so large a change in insurance coverage as we are talking about with national health insurance. Hospital services were approximately 80 percent covered in the period before 1965; this figure rose to close to 90 percent in the late 1960s.[*] Most of this change in coverage can be attributed to Medicare and Medicaid. Currently proposed legislation envisions raising hospital coverage by a similar increment, from 90 percent to close to 100 percent. The change in the overall demand for hospital services caused by Medicare and Medicaid was probably about 10 percent, and a similar, relatively small increment in demand would probably be observed if full coverage were extended to hospital services.[**] In the case of ambulatory physician services, however, Medicare-Medicaid caused perhaps a 10 to 15 percent rise in demand;[***] currently proposed legislation will probably lead to a substantially larger increase, as discussed in the text.

The increase in demand caused by the introduction of Medicare and Medicaid was, of course, concentrated among the poor and the aged, with the result that care was redistributed to those groups. Tables A-1 and A-2 show the distribution of hospital days and admissions, the percentage of the population seeing a physician, and physician visits by age and income before and after the introduction of Medicare-Medicaid. The data come from the Health Interview Survey of the National Center for Health Statistics. They show a marked redistribution of hospital days toward the aged after the legislation was passed. Hospital days per person among the aged rose by approximately 50 percent, while hospital days

---

[*] Cooper, B.S., N.L. Worthington, and P.A. Piro, "National Health Expenditures, 1929-1973," *Social Security Bulletin*, Vol. 37, March 1974, Table 7.

[**] Newhouse, Phelps, and Schwartz, *op. cit.*

[***] *Ibid.*, Appendix D.

among the nonaged actually fell. The proportion of poor persons with hospital stays also rose substantially, while the proportion fell in the three highest income classes. Physician visits do not show the marked redistribution across age groups that hospital days do.[*] They do, however, show a considerable leveling by income group.

Given the relatively small increments in overall demand caused by Medicare and Medicaid, I would not expect that the rationing mechanisms discussed above would have been much in evidence. However, it is well known that the rate of price inflation doubled following the introduction of Medicare and Medicaid; whether the other rationing mechanisms were called into play is a matter of speculation.

2. <u>What lessons are available from the Canadian experience?</u> I find the Canadian experience generally consistent with the analysis presented in the text. As a preliminary remark, I have an impression that most Canadians are pleased with their financing arrangements, at least compared with what they see south of the border. Certainly, there seems to be no substantial sentiment to impose cost sharing in Canada, suggesting that Canadians prefer no cost sharing.

I indicated that an immediate full coverage plan in the United States would place stress on the ambulatory care sector. In fact, there was some evidence of stress on the Canadian ambulatory care sector when full coverage health insurance was enacted. As noted in the text, in Montreal (the area from which we have the best data) waiting time for an appointment roughly doubled. We do not have information on other rationing mechanisms that might have been called into play, although clearly the medical care delivery system did not "fall apart."

It may have been the case, however, that the Canadians were better placed to introduce full coverage insurance than we would be at the present time. In some of the provinces (e.g., British Columbia, Saskatchewan) coverage for ambulatory services before the introduction of the national plan was nearly universal (although this appears not to have been true in the largest provinces, Ontario and Quebec). Moreover, a greater proportion of the Canadian physicians are primary care physicians. For ex-

_____
[*] This may have been because demand was growing among both the aged and the nonaged owing to the spread of insurance coverage, whereas hospital coverage of the nonaged may already have been substantial.

ample, 56 percent of Canadian physicians are in general practice, internal medicine, or pediatrics, whereas only 37 percent of American physicians are in these specialties (overall physician/population ratios are similar).[*] It is on these physicians that the bulk of the increase in demand would fall, and there are about 40 percent more such physicians per person in Canada.

In the long run the Canadian experience appears to be consistent with the conclusion drawn in the text that, with no cost-sharing and fee-for-service medicine, regulation by the public sector becomes inevitable. Regulatory mechanisms were in place prior to the enactment of the Canadian Medicare, but observers of Canadian medicine have argued that they were ineffectual.[**] Certainly, there was a marked rise in the percentage of GNP devoted to medical care in Canada during the late 1960s and early 1970s, suggesting that supply was responding to increased demand. This rise now appears to have leveled off. It may be that direct regulation is being used to a greater degree to control expenditure.

3. **Will individuals purchase supplementary insurance if a national health insurance plan includes cost sharing?** It is frequently charged that if a national plan embodying cost sharing is enacted, persons will purchase companion or supplementary coverage that eliminates the cost sharing feature. Sometimes it is alleged that higher-income families will do this, placing the entire brunt of cost sharing on the poor. The Medicare experience, in which the aged are said to purchase supplementary insurance, is frequently cited as an example.

I do not believe the case is so obvious. First, cost sharing requirements in a public plan could be made to apply to expenditures that are not reimbursed by private insurance, just as the current income tax deduction for medical expenses applies to unreimbursed expenses.

_____

[*] American Medical Association, "Distribution of Physicians in the U.S., 1973,"; Chicago: The Association, 1974, and Biostatistics Division, Department of National Health and Welfare, "Statistical Analysis of Active Physicians by University and Year of Graduation by Primary Specialty and Other Activity Status and Other Specialty Interest, and by Province of Residence, Canada, 1971," mimeo.

[**] Evans, Robert, "Beyond the Medical Marketplace: Expenditure, Utilization, and Pricing of Insured Health Care in Canada," in *The Role of Insurance in the Health Service Sector*, ed., Richard Rosett, National Bureau of Economic Research, forthcoming.

This would effectively eliminate supplementary insurance. But such a provision may be difficult to enforce. For the sake of argument let us assume that cost sharing applies to total expenditure. My preliminary work suggests that the extent of supplementation in this case will depend upon how large the cost-sharing arrangements are and also upon *the tax treatment of supplementary health insurance policies.* If a moderate (say $150 to $200 per person per year) deductible is included in a national plan, and if there are no special tax benefits, it seems un-likely that individuals will purchase coverage that will eliminate the deductible for all services, though they may purchase such coverage for hospital services only. My preliminary calculations suggest that the premium for such a policy would be sufficiently high that families would probably not buy it; the premium could conceivably exceed the deductible.

The situation is quite different if special tax benefits continue to be accorded to premiums for supplementary policies. At the moment, employer-paid health insurance premiums are not taxable income, and individually paid premiums are 50 percent deductible for taxpayers who itemize deductions. These provisions amount to approximately a one-third reduction in the price of insurance for most workers. Eliminating the tax benefit would require including premiums paid by the employer for supplementary insurance in the employee's taxable income and elim-inating the individual deduction for supplementary insurance. In effect, supplementary insurance would be treated like employer-purchased life insurance policies with a face value in excess of $50,000; the premium for the excess over $50,000 is considered taxable income. If current tax benefits for supplementary insurance are continued, it is difficult to say whether supplementary insurance will be purchased.

Contrary to widespread impressions, the Medicare experience is quite consistent with the above statements. Very few of the Medicare supple-mentary policies cover the deductible, in Part B, of $50; rather, they cover cost sharing in Part A, and the coinsurance and upper limits in Part B. I estimate that less than 10 percent of the aged have purchased coverage that eliminates the Part B deductible.[*] This evidence strengthens

_____
[*] Based on data in Peel, Evelyn and Jack Scharff, "Impact of Cost Sharing on Use of Ambulatory Services Under Medicare, 1969," *Social Security Bulletin*, Vol. 36, No. 10, October 1973, Table 1 and Footnote 8. Tax treatment is a less important factor among the aged because most policies are not purchased by employers.

my view that supplementary insurance that would lead to first dollar coverage is unlikely to be successfully marketed, except possibly for hospital services.

Finally, persons arguing that supplementary insurance will be widespread must explain why a family that now has a plan with cost sharing, but whose cost sharing is not reduced by a national plan (e.g., the family has a $50 deductible and the new national plan has a $100 deductible), should now desire to improve its insurance (e.g., eliminate the deductible).

4. **What are the administrative costs of cost sharing?** Administrative costs have received relatively little study, and I claim no special expertise in answering this question. It is often alleged that plans with cost sharing are more expensive to administer than plans with no cost sharing, and that any "savings" in utilization from cost sharing are offset by these increased administrative costs. I am skeptical of this conclusion.

So long as providers are reimbursed on a fee-for-service basis, a bill (or claim) will be submitted to someone by the provider for each procedure. Even if there is no cost sharing, this bill must be processed by the agency that administers the insurance plan and a check made out to the provider. Of course, if physicians were salaried this cost would disappear, but in that case other administrative problems would arise (such as salary determination, if there were a merit system). I will assume henceforth that we are discussing a fee-for-service world.

The additional cost connected with cost sharing occurs when the agency administering the plan bills the consumer for his share of the costs (or when the consumer submits his bills to the insurance company, if the provider has billed the consumer directly). How large are these additional costs? If one envisions a system that operates like a bank credit card, the answer is probably not very large. The bank pays the seller and collects from the consumer. To my knowledge, such credit-card systems operate on margins of about 3 percent, so the incremental cost of collecting from the consumer is probably much less than 3 percent. Relative to the administrative costs of managing the medical care system that would be incurred in a world of no cost sharing (e.g.,

negotiating a budget with each hospital), administrative costs of much less than 3 percent seem small. As discussed in the text, such regulation may be desirable, but the case for regulation on the basis of administrative costs seems to be weak.

Administrative cost should be relatively low in a plan where the deductible is sufficiently high that most people, most of the time, pay for their care. (In this case, there is only one transaction, that between consumer and provider.) Indeed, eliminating cost sharing could lead to *higher* administrative costs in instances where the consumer pays for the service at the time of acquisition rather than being billed later. An example is drugs and supplies. Here the "administrative" cost occurs when the customer reaches for his wallet at the cash register. The cost is presumably small relative to that entailed if the store must bill the agency that administers the insurance plan to obtain reimbursement.

If there is cost sharing, one faces the issue of what to do about those who do not pay (bad debts). One cannot suspend such persons from eligibility for health insurance without defeating many of the aims of public health insurance. Thus, one is forced to consider penalties similar to those for nonpayment of taxes. While such penalties are distasteful, eliminating cost sharing probably exacerbates another distasteful problem, that of fraudulent billing or billing for services not delivered. Additional administrative resources would be required to cope with this problem.

5. **What are the difficulties of administering a plan that contains income-related benefits?** For slightly more than a year, just over 250 families in Dayton, Ohio, have stopped using their previous health insurance and have been using instead health insurance plans with income-related benefits. These families are participating in a research project known as the Health Insurance Study, the experiment alluded to at the beginning of my testimony. (Additional families are using insurance plans with nonincome-related benefits.) One of the purposes of the study is to learn something about the administrative problems of using income-related benefits. I am the Project Director of the study.

The experimental health insurance plan guarantees the family that it will not have to spend more than a certain amount of money out of

pocket in any single year. This amount is a fraction of the family's previous year's income—either 5, 10, or 15 percent, or $1000, whichever is less. Thus, in designing the experiment we had to face some of the problems that would confront any health insurance planner attempting to relate cost sharing provisions to income. Specifically, we had to define (a) a family unit whose members' incomes are to be aggregated, (b) the period of time over which income is to be measured (the accounting period), and (c) which funds are to count as income.

Our actual experience with the families is as yet too limited to permit drawing conclusions, but the process of formulating procedures has led us to the opinion that income-related benefits present a number of administrative problems. An example occurs where the family unit breaks up (e.g., because of divorce). It is possible to manipulate the plan to one's advantage unless care is taken in the operational design. Suppose a husband and wife have an insurance plan that limits out-of-pocket expenditures to 10 percent of their $12,000 income over a calendar year period, or $1,200. Suppose they separate with one month remaining in the calendar year and have had no medical expenses. What should their insurance plan be for the rest of the year? One might try to define a short accounting period for each partner, based on the time left in the year, and pro-rate the out-of-pocket limit. If so, the limit for the remaining month would be one-twelfth of $1,200, or $100, allocated between husband and wife. But in this case if either is told that he/she needs an operation, there is an incentive to separate (for perhaps just a month) and save the difference between $1,200 and $100. This kind of incentive seems undesirable in a national insurance plan. One solution to this particular problem would be to define a longer accounting period if a split took place late in the year. For example, all of the expenditures in the last month could be carried forward into the next year, which would then have a 13-month accounting period (and perhaps a $1,300 limit allocated between the two partners).

Whether this is the appropriate solution is not my chief concern here. Rather, I wish to make the point that income-related benefits are likely to create complicated administrative problems. (The complexity of defining income for the purpose of the individual income tax is all too familiar.) Whether the administrative problems would be in-

superable is a matter of conjecture; I would guess they would not prove
to be. However, if there are to be income-related benefits, I would
recommend that the income-related feature apply only to the so-called
"back end" of the policy—i.e., to an upper limit on out-of-pocket payments.
For example, out-of-pocket payments might be limited to 10 percent of
income, with the individual paying for all services below that figure.
The objective would be to make variation in income irrelevant to the
health insurance benefits of most people, most of the time. If one makes
the so-called "front end" dollars (that is, small deductibles and coin-
surance rates) depend upon income, the administrative problems connected
with income-related benefits become greatly magnified. Moreover, the
difficulty with income reporting among the poor (more generally those
who do not file income tax returns) is considerable, suggesting that income-
related benefits not be used for this group. One possibility is simply to
eliminate any cost sharing for this group.

6.   What impact does cost sharing have on health status? This might
be termed the $64 billion question. There are no definitive data; the
Health Insurance Study, the experiment referred to earlier, is making
a considerable effort to gather data on this question. Unfortunately,
the results will not be in hand for several years.

I do not wish to prejudge the answer that will be found in the ex-
periment, but some comments can be made. A number of studies have sought
to link the receipt of medical services to health status outcomes. For
the most part, no relationship has been found; when, on occasion, a
relationship *was* found, the estimated effect was small. Whether this
outcome reflects the true state of the world, or whether it reflects
methodological flaws in the studies, is arguable. However, neither the
mortality rate nor the morbidity rate has shown much decline in the United
States in the past twenty years despite much greater spending on medical
care. Thus, I would argue that the burden of proof is with those who
assert that greater provision of personal medical care services would
lead to noticeable changes in mortality or morbidity rates.

At the same time, people obviously value medical services. What
is it about such services—especially ambulatory services, where ex-
pansion is likely to occur—that they value? It is reasonable to suppose
that a further expansion of ambulatory medical services is more likely to buy

prognostic information, relief of pain, and lessening of anxiety than
more easily measured changes in health status. Additional hospital
services may satisfy the norm (relieve guilt?) that "everything" possible
was done to save a patient's life. If these speculations are correct,
additional medical services are more likely to contribute to the quality
of life than to the quantity of life.

Table 1

EXTENT OF COVERAGE FOR HOSPITAL SERVICES

(Percent of hospital bills paid by direct payment, 1973: 11.4 percent[a])

	Percent of Total Population
Population under 65 with private health insurance (1970)	70.2[b]
Population with Medicare (1970)	9.9[c]
Population under 65 with Medicaid (1971-72)	7.9+[d]
Population under other public programs	?
Total:	88.0+

Sources:

[a]Social Security Administration, ORS, National Health Expenditures, Research and Statistics Note Number 1, 1975, Table 5. Direct payments are payments by patients.

[b]National Center for Health Statistics, "Hospital and Surgical Insurance Coverage Among Persons Under 65 Years of Age in the United States, 1970," Monthly Vital Statistics Report, Vol. 21, No. 9, Supplement 2. Percentage of Population Under 65 computed from *Statistical Abstract*, 1975, p. 31.

[c]Number Enrolled in Medicare from Social Security Administration, ORS, "Medicare, Fiscal Years 1968-1971," p. 5, Population from *Statistical Abstract*, 1975, p. 5.

[d]Number of Recipients Under 65 from National Center for Social Statistics, "Number of Recipients and Amounts of Payments Under Medicaid," 1972, Table 2. Under 65 Population calculated from *Statistical Abstract*, 1975, pp. 5, 31 (1970 proportion under 65 applied to average of 1971 and 1972 population, because Medicaid data are for fiscal year. Number is conservative because not all eligibles are recipients.

Table 2

EXTENT OF COVERAGE FOR SURGEON'S SERVICES

	Percent of Total Population
Population under 65 with private health insurance (1970)	67.8
Population with Medicare (1970)	9.5
Population under 65 with Medicaid (1971-72)	7.9+
Other public programs	?
Total	85.2+

Sources: Same as Table 1.

Table 3

FRACTION OF MEDICAL CARE EXPENDITURES PAID
DIRECTLY BY USER

Expenditure	Percentage
Physician office visits, Fiscal 1972	60[a]
Dentists' bills, 1973	86[b]
Prescription drugs, 1973	76[c]

Sources:

[a]Newhouse, Joseph P., Charles E. Phelps, and William B. Schwartz, "Policy Options and the Impact of National Health Insurance, *New England Journal of Medicine*, June 13, 1972, Appendix B.

[b]Social Security Administration, ORS, "National Health Expenditures," *Research and Statistics Note No. 1*, 1975, Table 6

[c]Calculated from *ibid.* assuming one-third of any expenditure is nonprescription and none of that third is reimbursed by third parties. For the derivation of the one-third figure, see Newhouse, Phelps, and Schwartz, *op cit.*

Table 4

ESTIMATED INCREASES IN DEMAND FOR VARIOUS MEDICAL SERVICES

Service	Percentage Increase
Outpatient physician services, if fully insured	75[a]
Dental services, change from uninsured to insured	70-120 [b]
Prescription drugs, change from uninsured to insured	70-100[c]

Sources:

[a] Newhouse, Phelps, and Schwartz, *op. cit.*

[b] Estimate of change in demand from uninsured to insured of 8-140 percent, based on data in Charles E. Phelps and Joseph P. Newhouse, "Coinsurance and the Demand for Medical Services," Santa Monica: The Rand Corporation, R-964-1, 1974, pp. 32-39. This range multiplied by 86 percent figure from Table 3.

[c] Estimate of change in demand from uninsured to insured of 90-130 percent, based on data in *ibid.*, pp. 28-32. This range multiplied by 76 percent figure from Table 3.

Table 5

FAMILIES WITH DOCTOR OFFICE COVERAGE BY INCOME, 1970

Income	Percent of Group with Coverage
Under $3,000	57
$3,000 - 4,999	48
$5,000 - 6,999	40
$7,000 - 9,999	42
$10,000 - 14,999	44
$15,000 and over	47
All incomes	47

Source:

Taken from Charles E. Phelps, "Effects of Insurance on Demand for Medical Care," in *Equity in Health Services*, eds. Ronald Andersen, et al.; Cambridge; Ballinger Publishing Company 1975, Table 7-11. Phelps' data are from the 1970 Nationwide Survey of the Center for Health Administration Studies of the University of Chicago.

Table A-1

HOSPITAL UTILIZATION BY AGE[a] AND INCOME[b] BEFORE AND
AFTER THE INTRODUCTION OF MEDICARE/MEDICAID

Item	1965-66	1968
Age	Hospital Days Per Thousand	
65 and over	2,029 (20.5% of	2,993 (28.3% of
Under 65	828 all days)	787 all days)
Income	Number of Persons Hospitalized Per Thousand	
Under $3,000	107	123
$3,000-4,999	106	107
$5,000-7,999	106	97
$8,000-9,999	96	94
$10,000 or more	89	82

[a]Source: "Persons Hospitalized," *Health Interview Survey*,
Series 10, Numbers 50, 64, Tables 4, 26, and 28.

[b]Source: "Persons Hospitalized," *Health Interview Survey*,
Series 10, Numbers 50 and 64, Table D and B.

Table A-2

PERCENTAGE OF PERSONS SEEING A PHYSICIAN AND PHYSICIAN VISITS
PER PERSON PER YEAR, BY AGE AND INCOME, BEFORE AND AFTER
THE INTRODUCTION OF MEDICARE/MEDICAID

Item	Percentage Seeing a Physician		Annual Visits per Person	
	1963-64	1969	1963-64	1969-1971[a]
Age				
Less than 65	65.9	69.2	4.3	4.4
65 and over	68.3	71.3	6.7	6.4
Income				
Under $3,000	59.5	66.2	4.3	4.8
$3,000-$4,999	64.2	66.8	4.5	4.5
$5,000-6,999	67.1	68.2	4.5	3.9
$7,000-9,999	69.8	69.5	4.7	4.1
$10,000-14,999	71.8	71.8	4.8	4.2
$15,000 or more	75.4	74.5	5.8	4.5

Source: "Physician Visits" and "Current Estimates," *Health Interview Survey*, Series 10, Numbers 72, 75 and 79. 1969 population weights were used to compute the age figures. Income figures are unadjusted for inflation.

[a]1969-1971 were averaged because the annual figures show some variance.